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Metropolis & Beyond 2005, 1926

Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-05 (Book), 1927

Seismic Design Criteria for Structures, Systems, and Components in Nuclear Facilities (ASCE/SEI 43-05), 1930

Standard Practice for the Design and Operation of Supercooled Fog Dispersal Projects (EWRI/ASCE 44-05), 1936

Transactions of the American Society of Civil Engineers 2004, 1939

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